

**NATURAL RESOURCE DAMAGE ASSESSMENT
WORK PLAN FOR PREASSESSMENT OF INJURY TO OSPREY FROM THE
DEEPWATER HORIZON (MC 252) OIL SPILL
(BIRD STUDY #9)**

Prepared by:
Bryan Watts
Center for Conservation Biology
College of William and Mary
Virginia Commonwealth University

and
Cindy Kane
Anne Condon
Chuck Hunter
U.S. Fish and Wildlife Service

and
Ken Meyer
Avian Research and Conservation Institute

RAPTOR TECHNICAL WORK GROUP

Listed below are the technical work group members who have participated in the development of this work plan.

Alabama

Department of Conservation and Natural Resources
Keith Hudson
Roger Clay
Will Brantley

Florida

Florida Fish and Wildlife Conservation Commission
Janell Brush
Robin Boughton
Ulgonda Kirkpatrick

Louisiana

Department of Wildlife and Fisheries
Laura Ann Carver
Michael Seymour
Todd Baker

Mississippi

DEQ
Mike Beiser
Mississippi Museum of Natural Science
Nick Winstead

Texas

Texas Parks and Wildlife Department
Brent Ortego
Clifford Shackelford

U.S. Geological Survey

Charles Henny
Clinton Jeske

Hawk Mountain

Keith Bildstein

West Virginia University

Petra Wood

U.S. Fish and Wildlife Service: Alfredo Begazo, Brian Millsap, Candace Martino, Carolyn Marn, Chuck Hunter, Cindy Fury, Craig Koppie, Emily Bjerre, John Schmerfeld, Karen Marlowe, Mark Koneff, Mark Otto, Resee Collins, Veronica Varela, Amy Defreese, Anne Hecht, Anne Secord, Carol Aron

INTRODUCTION

The Deepwater Horizon (MC 252) oil spill began on or about April 20, 2010. Oil spill-related injury to wildlife is of major concern to the Natural Resource Trustees (Trustees), BP, and the American public. The Trustees for this oil spill that have particular interest in birds include, but are not limited to, the U.S. Fish and Wildlife Service (Service), the National Park Service (NPS), and the natural resource agencies of the States of Texas, Louisiana, Mississippi, Alabama, and Florida.

This plan specifically seeks to identify osprey (*Pandion haliaetus*) nests in a portion of the Area of Potential Impact and a Reference Area and evaluate (ground check) them to collect ephemeral data on 2010 nest status for the purpose of estimating return rates (*i.e.*, the proportion of nests found during the 2010 survey that are reoccupied during the 2011 nesting season). The 2010 nest evaluation will determine if oil is present in the nest. Ospreys have been chosen as a focal species for assessing injury to raptors because, of the 35 to 40 raptor species that use the Gulf of Mexico, ospreys have a relatively high potential for exposure due to their use of aquatic and estuarine habitat and prey and feeding behavior.

The northern Gulf of Mexico supports 3 distinct groups of osprey:

1. Summer residents that breed in the Gulf of Mexico and winter in South America,
2. Winter residents that breed and spend their summers in more northerly areas, and
3. Transient birds that follow the Mississippi flyway and may stage in the northern Gulf of Mexico during migration.

GEOGRAPHIC SCOPE

Two areas have been identified for the purpose of this data collection effort: the Area of Potential Impact (API), and the Reference area (REF). There will be a buffer zone of approximately 40 km at the interface of these two areas in which nests will not be assessed. The API includes nearshore waters from Atchafalaya Bay, LA to Apalachicola Bay FL. The REF includes nearshore waters east of Apalachicola Bay, FL to Charlotte Harbor, FL (Figure 1).

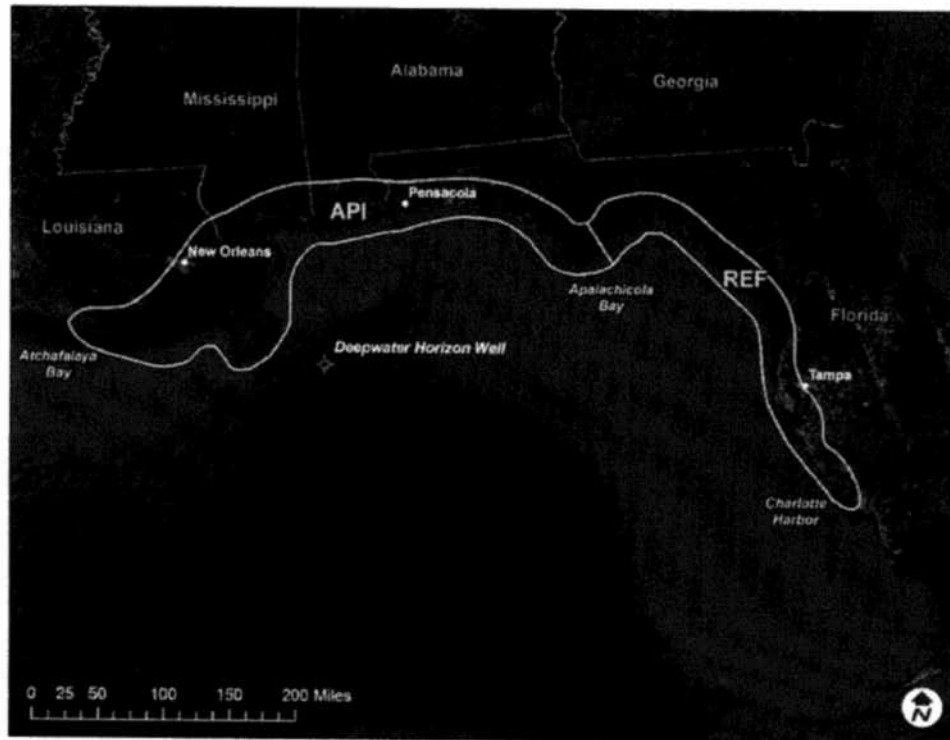


Figure 1. Google image showing the osprey study area including the approximate Area of Potential Impact (API) and the Reference Area (REF). There will be a buffer area of 40 km (20 km on either side of the above area demarcation) in which nests will not be surveyed.

OBJECTIVES

The objectives of this plan are to:

1. Conduct aerial surveys within approximately 30% of the API and REF areas to document existing nests in the API and REF that were occupied in 2010 to provide baseline data to estimate adult osprey return rates.
2. Conduct ground-based nest checks of all identified nests that can be safely accessed to collect ephemeral data from residual osprey nest contents from the 2010 nesting season to determine the presence of MC252 (Deepwater Horizon) oil.
3. In 2011, revisit all nests inspected in 2010 to determine nesting status (i.e., active pair).

DATA COLLECTION ACTIVITIES

Objective 1 – Aerial Surveys

Three to five days of aerial surveys (approximately 24 flight hours) will be conducted using a Cessna 172 with two observers. All mapping flights will occur at altitudes of approximately 100 meters when

flying over open water, unpopulated shoreline, and marsh. In accordance with The Federal Aviation Regulations, minimum altitude will increase to 500 feet over sparsely populated areas and 1000 feet over any congested area of a city, town, or settlement, or over any open air assembly of persons. Aerial surveys will cover approximately 30% of the area of the API and REF (Figure 1 and Attachment 1 data sheet).

Objective 2 – Ground-based Nest Checks 2010

All nests identified in Objective 1 that can be safely accessed will be ground-checked in 2010 to document existing nests in the REF and API study areas that were occupied in 2010 (to enable the assessment of adult return rates). Nest contents will be examined for evidence of oiling (NOTE: all references to “oil” and/or “oiling” refer to oil from the Deepwater Horizon (MC252) discharges). Immediately following the aerial surveys, accessible nests will be climbed and the nest contents examined for the presence of oil. Climbers will collect, if present, addled eggs, dead chicks, feathers, and oiled nest lining. Each nest will be photographed and classified as not visibly oiled or visibly oiled based on the presence or absence of visibly oiled nest material, eggs, or chicks (Attachment 2 data sheet). Nest material will be viewed with a UV light held under a blackout cloth to exclude external lighting. If fluorescence is observed, nest materials may be collected for further evaluation. Any nest samples collected will be stored in bags, sealed, and labeled in accordance with NRDA Chain-of-Custody procedures and sent to the trustees (USFWS-NRDA) for archiving and potential future analysis, including fingerprinting. Data developed from these samples will be shared with Entrix/BP by the trustees.

Objective 3 – 2011 Ground Check of Nests for Occupancy

The nests checked in objective 2 will be resurveyed in 2011 in both the API and the REF to determine the proportion of 2010 occupied nests that are occupied (nests with osprey activity, eggs, or chicks) in 2011.

Data forms for aerial surveys and nest content searches are attached.

GENERAL OPERATING PROCEDURES

Coordination of Flights - Flights will follow National Park Service (NPS) and National Wildlife Refuge (NWR) protocols when crossing over their lands. All flight operations will be coordinated in accordance with the DWH MSC252 protocols for flights.

Access to Property - In accordance with the protocols in Appendix 1 and individual Department of Defense (DOD) facility requirements, for any study sites that may require access to Wildlife Management Areas, National Wildlife Refuges, National Parks, and DOD lands, permission will be requested from the appropriate manager or DOD natural resources representative prior to entering the site, and refuge, park, or DOD personnel will accompany survey crew as required or desired. Research permits to operate within state or federally-owned lands will be requested as needed. When access to privately held properties is required, landowner permission will be secured.

Written Standard Operating Procedures – Data-collection details and protocols for performing this rapid assessment will be included in written Standard Operating Procedures (SOPs). The SOP's shall be submitted to BP for review and approval prior to the start of implementation of this work plan.

Data Handling - Chain-of-custody procedures will be observed at all times. All samples and data sheets will be transferred with appropriate chain of custody forms.

All field and laboratory data will be collected, managed and stored in accordance with US EPA Good Laboratory Practice regulations (GLPs) to the extent practicable. In accordance with GLPs, all field and laboratory work, and the calibration and use of field and laboratory equipment (e.g., hand held GPS devices) shall be conducted in accordance with Standard Operating Procedures (SOPs). The appropriate training on particular equipment or in the conduct of specific field studies for all personnel involved with the project shall be documented and those records kept on file by the implementing entity for the duration of this project. All data (including electronically archived data) and original data sheets or electronic files, must be promptly transferred to USFWS. All samples will be sent to laboratories agreed upon by the Trustees and BP.

Each laboratory shall simultaneously deliver raw data, including all necessary metadata, generated as part of this work plan as a Laboratory Analytical Data Package (LADP) to the trustee Data Management Team (DMT), the Louisiana Oil Spill Coordinator's Office (LOSCO) on behalf of the State of Louisiana and to BP (or ENTRIX on behalf of BP). The electronic data deliverable (EDD) spreadsheet with pre-validated analytical results, which is a component of the complete LADP, will also be delivered to the secure FTP drop box maintained by the trustees' Data Management Team (DMT). Any preliminary data distributed to the DMT shall also be distributed to LOSCO and to BP (or ENTRIX on behalf of BP). Thereafter, the DMT will validate and perform quality assurance/quality control (QA/QC) procedures on the LADP consistent with the authorized Analytical Quality Assurance Plan, after which time the validated/QA/QC'd data shall be made available simultaneously to all trustees and BP (or ENTRIX on behalf of BP). Any questions raised on the validated/QA/QC results shall be handled per the procedures in the Analytical Quality Assurance Plan and the issue and results shall be distributed to all parties. In the interest of maintaining one consistent data set for use by all parties, only the validated/QA/QC'd data set released by the DMT shall be considered the consensus data set. In order to assure reliability of the consensus data and full review by the parties, no party shall publish consensus data until 7 days after such data has been made available to the parties. Also, the LADP shall not be released by the DMT, LOSCO, BP or ENTRIX prior to validation/QA/QC absent a showing of critical operational need. Should any party show a critical operational need for data prior to validation/QA/QC, any released data will be clearly marked "preliminary/unvalidated" and will be made available equally to all trustees and to BP (or ENTRIX on behalf of BP).

Field Activities – Field activities that are inconsistent with BP field safety policies will be implemented by trustees and/or trustee representatives. BP representatives will be embedded in all activities that are not specifically outside the BP safety policies (e.g., BP representatives will accompany each crew at the time of the climbs but stay on the ground and review the results of each climb at the time of data collection.)

A good faith effort will be made to conduct the field activities with cooperative, integrated teams of observers. A weekly schedule describing the number of teams and their general area of operation will be prepared by the Trustees' project coordinator and provided to BP or its designated representative 10 days in advance of the scheduled field operations. BP or its designated representative will provide the Trustees'

project coordinator a list of survey events or dates in which BP/ENTRIX would like to participate. This would be provided as soon as practical after receipt of the schedule, and prior to the beginning of the designated field week. If these agreed-upon notification and communication procedures are followed, yet circumstances prevent BP or its designated representative from participating in a survey, the survey will be carried out without BP's or its designated representative's participation. If BP or its designated representative is available and on site for the survey, then the field work will be carried out as an integrated team.

Data sharing - Prior to concluding each day, integrated teams will share all (1) data sheets, (2) official photographs, and (3) the official GPS track log. In the event that data are collected without a BP representative present, those data (data sheets, track logs, photos) will be shared with BP in accordance with text in the Data Handling section and any project specific SOPs developed for this project.

Carcass Management -- Any non-viable eggs or carcasses encountered in nests will be collected and processed according to the protocols in the "Osprey Rapid Assessment Standard Operating Procedures." All samples will be sealed and labeled in accordance with NRDA Chain-of-Custody procedures and sent to the trustees (USFWS-NRDA) for archiving and potential future analysis, including fingerprinting. Data developed from these samples will be shared with Entrix/BP by the trustees.

Safety -- Field teams will comply with all existing training and safety protocols as applicable to operations. Prior to commencement of field activities, BP and the Trustees will agree upon a person or persons to whom study participants may report any safety concerns. Such person(s) will take action to address and resolve reported concerns.

Disposition of Durable Equipment -- Any durable equipment purchased by BP will be returned to BP or its designated contractor upon completion of this study.

SCHEDULE:

Objective 1: Implementation to begin 8 weeks after contract approved.

Objective 2: Implementation to begin 8 weeks after contract approved.

Objective 3: 2011 Ground Check of Nests for Occupancy. Estimated to begin as early as February 2011.

BUDGET

A. Personnel

Salary
Fringe

B. Equipment

C. Tuition & Academic fees

D. Travel

E. Materials/Supplies

F. Contractual Services

G. Subcontracts

H. Total Direct Cost

Costs (a-h)

I. Indirect Cost

J. Total Cost

\$195,247

- A. Two months salary for PI \$ /mo., months salary for research biologist at \$ /mo, and months salary for research biologist \$ /mo. Fringe rate %.
- B. A GPS and laptop combination for data recording during flight and boat work.
- D. hours of plane rental @ /hour, hotel for observers and pilot for total nights at \$ night. Per diem for people for days total at \$ /day. Fleet vehicle rental (includes mileage) miles @0. /mile. Fleet rate for outboard motor boat \$ /day for days. Boat ramp fee \$ /ramp for ramps.
- E. Camera with GPs capabilities \$. Laptop for data storage and uploading \$ All equipment will be returned to BP upon completion of the study.
- I. Current Virginia Commonwealth University negotiated overhead rate for federal agencies is %; reduced rate for contractual services and subcontracts not applicable to this study.

The Parties acknowledge that this budget is an estimate, and that actual costs may prove to be higher. BP's commitment to fund the costs of this work includes any additional reasonable costs within the scope of this work plan that may arise. The trustees will make a good faith effort to notify BP in advance of any such increased costs.

Appendix 1. Protocols for requesting access to National Wildlife Refuges and National Parks

**PROTOCOL FOR REQUESTING ACCESS
to
US FISH AND WILDLIFE SERVICE
NATIONAL WILDLIFE REFUGES
For
Natural Resource Damage Assessment Activities
MSC252 – Deep Water Horizon**

To be used with respect to Natural Resource Damage Assessment (NRDA) activities related specifically to the BP Mississippi Canyon 252 Oil Spill in the Gulf of Mexico

National Wildlife Refuge (NWR) lands are some of the most sensitive areas in the oil spill area. National Wildlife Refuge managers have been overwhelmed with requests for data collection on NWR lands. Collection of data from NWRs is vitally important, and coordination with NWR staff on all activities on NWR lands is needed. The refuge staff are experts on their NWRs and integration into appropriate ongoing refuge activities, as applicable, is important. The purpose of this protocol is to facilitate assessment by providing central points of contact for NWR managers and Technical Working Group (TWG) members. To assist with NRDA data collection, please use the Access Request Form to facilitate your pre-assessment and assessment needs.

The form is located on the ftp site: [ftp://www.fws.gov/nwr/nrda/](#) under *Field Operations* in the *Scientific Research and Collecting Permits* file. Please submit access requests and associated assessment work plan(s) to [nwrliason@fws.gov](#). After the request is received by an NWR liaison you will be contacted to arrange access to the requested site.

NRDA NWR Liaison:

NWR Liaison:



Incident-Specific Guidance for Scientific Research and Collecting Permit applicants
May 14, 2010

**To Be Used Only With Respect To Scientific Activities Related Specifically To
The BP Mississippi Canyon 252 Oil Spill In The Gulf Of Mexico**

The purpose of this information is to provide guidance to those who wish to conduct scientific activities in parks impacted by the oil spill.

- Activities related to response/clean-up do not require a Scientific Research and Collecting Permit. Contact the park directly to determine how to proceed.
- Proposed activities that trigger the requirement to apply for a Scientific Research and Collecting Permit include Natural Resource Damage Assessment (NRDA) activities, scientific specimen collection, data collection, inventory, monitoring, and research.

If you need a permit this is what you do:

- Access the Research Permit and Reporting System (RPRS) web site: [http://www.nps.gov/permits](#)
- Choose "Submit applications for research permits" and follow the instructions
- Please identify the funder of your activity in the "Purpose of Study" field.
- Be sure to complete the process. You will know you are done when the system provides you the option to print a copy of your application. This page also provides an "Apply for another Research Permit" option by which you may submit the same application to additional parks. This option saves time by porting the data you entered in your original application into the new application, and you will be able to edit the data in the new application.
- Park contact information is provided at the beginning and end of the application process. It is a good idea to follow up your application by checking in with the Park Research Coordinator.
- If you are unable to submit your application on-line, you may contact the park directly. The park has the option of processing permit applications via paper forms.

Additional Points

- Park contact information is available from the RPRS web site; choose the "Park Info" menu item.
- A National Park Service resource advisor/observer may be assigned to accompany you in the field.
- Review of applications related to the oil spill will be expedited.
- Review of applications not related to the oil spill may be delayed.
- For questions related to the process of submitting an application you may contact Bill Commins at bill.commins@nps.gov.
- For questions related to the status of your application, contact the Park Research Coordinator.
- Additional appendices will be included to cover assessment methods, SOPs and protocols associated with the activities within the spill area.

Date: _____

Observers: _____

Study Area (circle): API or Reference _____

Observer 1 Signature: _____ Date: _____

Observer 2 Signature: _____ Date: _____

Data entered (date): ____/____/____ Database entry person (name): ____ Database entry person (signature): ____

Nest Substrate

- 1 Day Marker
- 2 Light Marker
- 3 Live Tree
- 4 Dead Tree
- 5 Duck Blind
- 6 Platform
- 7 Other Man Made (specify in notes)

Nest Condition

1 Intact
2 Damaged
3 <1/3 remnant

Nest Lining

1 Good
2 Poor
3 Absent

Osprey Activity

1 None
2 Osprey on Nest
3 Osprey within 200m

Attachment 2. Osprey Rapid Assessment Nest Check Form

Date: _____ Observers: _____ Study Area (circle): API or Reference

Nest Code: _____ Coordinates WGS 84 DD.ddddd: _____ N _____ W _____

Nest Data			
Nest Substrate	Nest Condition	Nest Lining	Visible Oiling Y/N
			zero, T, L, M, H, UV
Photo Card and Photo Numbers			

Bird Data				
Number of Adults	Number of Juveniles	Number of Eggs	Number of Chicks	Visible Oiling Y/N
				zero, T, L, M, H, UV
Photo Card and Photo Numbers				

Collection Data Y/N			
Blood	Feathers	Eggs	Chicks
Nest Lining			
Photo Card and Photo Numbers			

Banding Data Y/N		
Adults Banded	Chicks Banded	Measurements
Photo Card and Photo Numbers		

Observer 1 Signature: _____ Date: _____ Observer 2 Signature: _____ Date: _____

Data entered (date): _____ / _____ / _____ Database entry person (name): _____ Database entry person (signature): _____

Nest Substrate
1 Day Marker
2 Light Marker
3 Live Tree
4 Dead Tree
5 Duck Blind
6 Platform
7 Other Man Made (specify in notes)

Nest Condition
1 Intact
2 Damaged
3 <1/3 remnant

Nest Lining
1 Good
2 Poor
3 Absent

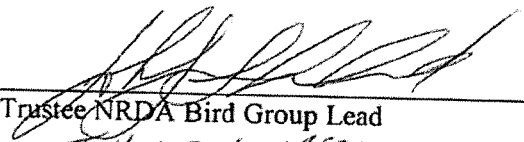
Oiling
T - Trace
L - Light
M - Moderate
H - Heavy
UV - Positive

Natural resource damage assessment (NRDA)


**WORK PLAN FOR PREASSESSMENT OF INJURY TO OSPREY FROM THE DEEPWATER
HORIZON (MC 252) OIL SPILL
(BIRD STUDY #9)**

Approval of this work plan is for the purposes of obtaining data for the Natural Resource Damage Assessment. Each party reserves its right to produce its own independent interpretations and analyses of any data collected pursuant to this work plan

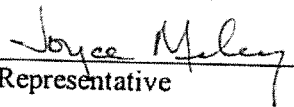
APPROVAL



Trustee NRDA Bird Group Lead 11/6/10
JOHN SCHMERFELD Date



State of Louisiana Trustee Representative 11/22/10
FOR KOLAND GUDAY Date



BP Representative Nov 10, 2010
Date